

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

SAMSUNG DISPLAY CO., LTD.,
Petitioner,

v.

PICTIVA DISPLAYS INTERNATIONAL LTD.,
Patent Owner.

Case No. IPR2024-01187
Patent No. 9,257,492

PATENT OWNER PRELIMINARY RESPONSE

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EXHIBIT LIST

Exhibit No.	Document
EX2001	Declaration of P. Morgan Pattison, Ph.D.
EX2002	U.S. Patent Publication No. 2012/0267147 (Ingle)
EX2003	Federal Court Management Statistics for U.S. District Courts, available from https://www.uscourts.gov/statistics/table/na/federal-court-management-statistics/2024/06/30-1
EX2004	Samsung Invalidity Contentions in <i>Pictiva Displays Int'l Ltd. v. Samsung Elecs. Co.</i> , No. 2:23-cv-000495-JRG (E.D. Tex.).

Patent Owner Pictiva Displays International Ltd. (“Pictiva”) respectfully asks the Board to deny the Petition filed by Petitioner Samsung Display Co., Ltd. (“Samsung”) challenging certain claims of Pictiva’s U.S. Patent. No. 9,257,492 (EX1001, “the ’492 Patent”).

I. INTRODUCTION

The ’492 Patent relates to forming electronic components on a substrate in particular layers using particular techniques. The claimed invention involves a combination of initial layers—such as the first and second electrically conductive layers—in which a first trench is formed to expose the underlying substrate and to separate a first and second region, along with subsequent dielectric and electrically conductive electrode layers “applied in a structured fashion” (whereby layers are applied only in partial regions depending on the desired structure), including a dielectric and an electrically conductive electrode layer. No reference of record discloses or suggests this novel approach.

Petitioner relies principally on two primary references as purportedly rendering obvious the independent claims of the ’492 Patent. Each suffers fatal deficiencies overcome neither by the secondary references nor by the declaration of Samsung’s expert, Dr. Kattamis. Ground 1 relies primarily on a reference (Ingle) that fails to disclose the structured application of the electrically conductive electrode layer in the claimed manner to form either a passive electronic component

(e.g., a capacitor) or an optoelectronic component (e.g., an OLED). Grounds 2 and 3, on the other hand, rely primarily on a reference (Hanamura) that does not disclose forming the claimed trench or a trench in the first and second electrically conductive layers.

More specifically, Ground 1 fails because each challenged claim requires the application of an electrode layer (e.g., a cathode) in a structured fashion. Each challenged claim also requires applying this electrode layer above the first contact region. Ingle—the primary reference for Ground 1 and an earlier patent application naming the same inventor as the '492 Patent—does not disclose these expressly claimed features. It is not surprising that an earlier patent application would not include features of subsequent inventions claimed in a later application. That is the case here. Contrary to suggestions in the Petition, Ingle does not disclose the application of *all* layers in a structured fashion, and it specifically does not disclose applying the cathode of an OLED or capacitor in this manner, much less in the particular configurations described and claimed in the '492 Patent. Petitioner cites no competent evidence suggesting that a person of ordinary skill in the art (POSITA) would have been motivated to apply the electrode layer in the specific structured fashion required by each independent claim of the '492 Patent.

In fact, as Petitioner admits, “Ingle leaves open how to finish forming a capacitor on its base structure, i.e., how to apply the cathode.” Pet. 24. The Petition

additionally relies on the Hasei reference for these limitations, but Hasei does not address the particular claim requirements for the structured application of the electrically conductive electrode layer of the passive electronic component (e.g., applying this layer in a structured fashion to the second contact region and to the dielectric above the first contact region).

For the optoelectronic component required by independent claim 10, Hasei is of even less help to Petitioner. The Petition suggests that a POSITA would combine the teachings of Ingle and Hasei because Ingle states that an OLED can be formed on the substrate “using a *conventional process*,” and Hasei allegedly “discloses such a conventional process for forming an OLED.” Pet. 18-19 (quoting EX1005 (Ingle), 21:34-36).¹ But neither Ingle’s nor Hasei’s “conventional process” would include applying an electrode layer in a structured fashion. While Petitioner argues that a POSITA would have been motivated to apply Hasei’s alleged “structured application” technique to form the OLED, Ingle suggests forming it using “a conventional process,” and Hasei describes then-existing photolithography as the “conventional method.” EX1007 (Hasei), ¶3.

Moreover, the Board should exercise its discretion under 35 U.S.C. § 325(d) because, as Petitioner acknowledges (Pet. 5 n.2), two applications related to Ingle

¹ All emphases added throughout unless otherwise noted.

were presented to the Office during the examination of the application that led to the '492 Patent. They were two of just a handful of references presented and expressly reviewed by the Examiner. Petitioner has identified no errors in the Examiner's treatment of these substantively identical disclosures to the Ingle reference.

Grounds 2 and 3 fail because each challenged claim requires a first trench in the first and second electrically conductive layers. Hanamura—the sole reference for Ground 2 and primary reference for Ground 3—fails to disclose the claimed first and second layers or a trench “in” them, much less “forming” such a trench. This deficiency is fatal, as Petitioner relies on no other reference for these independent claim limitations.

Accordingly, the Board should deny the Petition. Petitioner has failed to demonstrate a reasonable likelihood of success in establishing the obviousness of any challenged claim. *See* 35 U.S.C. § 314(a).

Moreover, discretionary denial under § 314(a) is appropriate in view of the advanced stage and significant overlap with co-pending litigation, the lack of a stay or stipulation, and the lack of compelling merits as demonstrated below.

II. THE '492 PATENT

The '492 patent (EX1001), titled “Method for Producing a Passive Electronic Component, Method for Producing an Optoelectronic Assembly and Passive Electronic Component,” relates to forming electronic components on a substrate in

layers applied using different techniques. EX1001, Abstract. The '492 patent describes “a method for producing a passive electronic component [e.g., a capacitor] and/or a method for producing an optoelectronic assembly [that may include, e.g., an OLED].” *See id.* at 1:41-46. The claimed invention include forming layers of electrically conductive and dielectric (insulating) materials on a substrate. Certain layers, including first and second electrically conductive layers, can be (but need not be) applied “in a planar fashion, that is to say without structure.” *Id.* at 11:2-4, 11:24-26. When applied in a planar fashion, layers can be subject to “subsequent structuring,” using techniques such as photolithography, etching, or laser ablation. *Id.* at 2:5-7, 4:5-9.

In addition to at least these first two layers applied to the substrate, “the dielectric and/or the electrode layer and/or subsequently further layers or materials are ‘applied in a structured fashion,’” which means “that the desired structure is already formed during the application of the corresponding layer,” and the “area to be coated is thus coated only in partial regions dependent on the desired structure.” *Id.* at 1:66-2:4. These layers can form a passive electronic component, such as a capacitor. *See id.* at 8:22-24. They can also form an optoelectronic assembly, which may include, for example, a passive electronic component and one or more optoelectronic components. *See id.* at 8:29-31. Each claim of the '492 Patent further requires applying an electrically conductive electrode layer in a structured fashion,

including an electrode applied to the dielectric “above the first contact region” and also in contact with the second contact region, which may form an electronic component (e.g., a capacitor). *See id.* at 20:41-43 (claim 1), 21:28-31 (claim 10), 22:39-42 (claim 16).

III. SKILL LEVEL OF A POSITA

Solely for purposes of this Preliminary Response, Pictiva applies the skill level proposed by Petitioner. *See* Pet. 9.

IV. CLAIM CONSTRUCTION

Pictiva proposes construing the term “forming a first trench” (EX1001 (’492 Patent), 20:32-35 (claim 1)), according to its plan and ordinary meaning, which requires the creation of something that did not previously exist. As described in the ’492 Patent, the first and second electrically conductive layers are first deposited and certain portions of them are then removed to “form” the first trench. *See* EX1001, Figs. 1-5 and associated text. As the ’492 Patent further explains, for example, the claimed trench is “formed in the first and second electrically conductive layers such that the substrate is exposed,” and this trench then “separates a first contact region from a second contact region.” *Id.* at 1:55-58. The claimed trench can be formed by “etching” or by “laser ablation.” *Id.* at 4:5-9. However, by reciting separate steps for forming the first and second electrically conductive layers and a first trench, the

inventors make clear that the step of trench formation is separate and distinct from forming the first and second electrically conductive layers.

V. ASSERTED PRIOR ART

A. Ingle

For the purpose of this POPR, Patent Owner proceeds under Petitioner's theory that Ingle (EX1004, EX1005)² discloses a substrate, first and second electrically conductive layers, and a first trench that resemble those described in the '492 Patent. *See, e.g.*, Pet. 28-30; EX1005, Fig. 1D. And solely for the purpose of this POPR, Patent Owner accepts Petitioner's theory that Ingle discloses the structured application of a dielectric. *See, e.g.*, Pet. 31-33; EX1005, Fig. 1I.

There are, however, several important distinctions between the disclosures of Ingle and the invention described and claimed in the '492 Patent. For example, while Ingle discloses a method for producing an "electronic component," which purportedly can be a capacitor, OLED, among other things, it does not disclose forming both a passive electronic component (e.g., a capacitor) and an "an optically functional layer in the component region" (e.g., the organic layers of an OLED

² Citations to Ingle (EX1004) refer to the translation provided by Petitioner (EX1005). Patent Owner does not concede that Petitioner's translation is accurate.

component) as required by claim 10 in the same optoelectronics assembly. *See id.* at 6:3-7.

Even if Ingle references these electronic components and discloses a base (including the first and second electrically conductive layers, the trench, and the dielectric), Ingle does not disclose the actual production of those electronic components, such as the cathode required to form a capacitor or the cathode required (among other components) to form an OLED, much less the structured application of those layers, which presents significant challenges, particularly because when “printing tolerances are inadequate for the required printing accuracy,” the resultant quality control problems can present numerous “issues that will be compounded for OLED display integration.” EX2001, ¶45. Indeed, Petitioner admits that “Ingle leaves open how to finish forming a capacitor on its base structure, i.e., how to apply the cathode.” Pet. 24. And as Petitioner admits, Ingle states that an OLED can be formed on the substrate “using a *conventional process*.” Pet. 18 (quoting Ingle, 21:34-36). Accordingly, Ingle’s most complete Figure 1I depicts no such topmost electrode components:

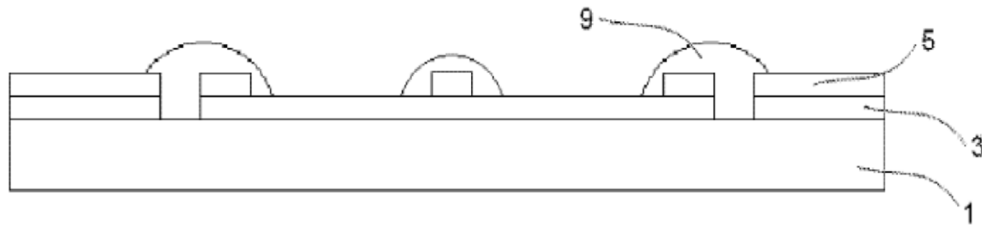
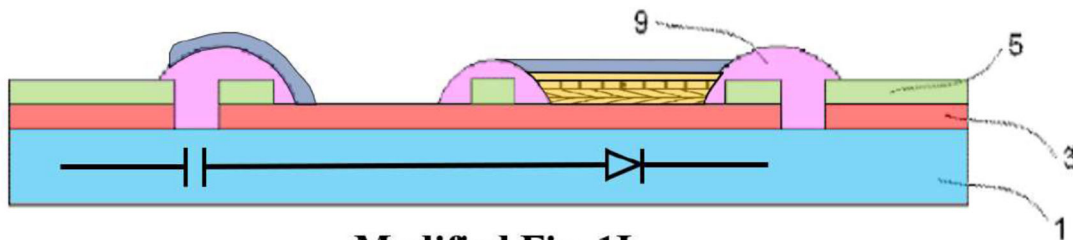


Fig. 1I

EX1005 (Ingle), Fig. 1I; *see also* EX2001, ¶46.

As such, the electrodes (shaded grey) depicted in various versions of Ingle Figure 1I “modified” by Petitioner have no basis in Ingle’s disclosures. They are pure conjecture and speculation. *Id.*, ¶47.



Modified Fig. 1I

Pet. 27 (EX1005 (Ingle), Fig. 1I (annotated and modified by Petitioner); *see also* Pet. 20, 24, 37, 39, 45. The Petition cites Ingle’s statements “that its method ‘is *usually* free of photolithographic steps’ (Ingle, 18:7-10), and that ‘each layer of the component can be applied individually and, if necessary, structured according to desire or purpose.’ *Id.*, 7:20-24.” Pet. 24. But these quotes are taken out of context to suggest something not taught by Ingle. *See* EX2001, ¶¶48-49 (“[A] POSITA would not understand these quotes to suggest that any layer disclosed in Ingle could

or should be applied in what Ingle describes as a structured fashion.”). First, the “method according to the invention” described by Ingle relates only to “printing *the insulator and the protective material* [not at issue in the independent claims] compared to the methods normally used in the prior art, such as lithographic methods.” Ingle, 16:12-16; *see also id.* at 16:19-25 (“In contrast to the conventionally used lithography methods, in which each coating step is ... structured photolithographically, ... it is intended to apply only as much material of the *insulator and the protective material*, both of which can generally be expensive materials, as is required for production of the electronic component.”). And the quote on page 7 merely discloses that “each layer of the component can be applied individually and, if necessary, structured according to desire or purpose.” Ingle, 7:20-27. It does not address whether the structuring occurs as part of the application or as part of subsequent, conventional techniques.

That Ingle does not contemplate structured application of all layers is reinforced by the immediately following disclosure that “the second electrically conductive layer” is applied “over the entire surface of the first electrically conductive layer in accordance with the invention.” *Id.* at 7:29-31. And, as previously discussed, Ingle states that an OLED can be formed on the substrate “using a conventional process.” *Id.* at 21:34-36.

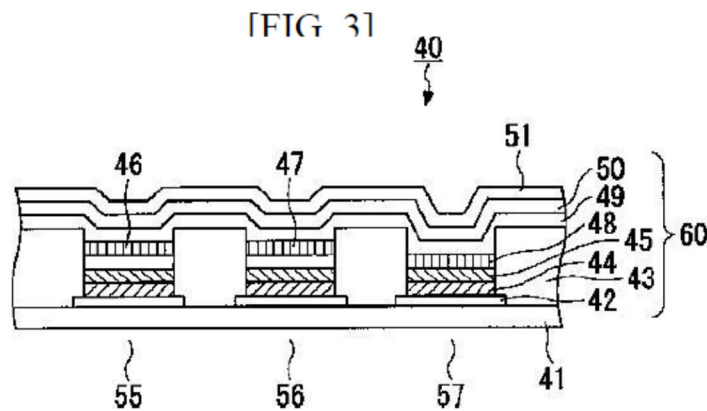
B. Hasei

As Petitioner states, Hasei (EX1006, EX1007)³ discloses “the ‘conventional process’ for forming the OLED contemplated in Ingle.” Pet. 12. Contrary to the Petition, however, what Hasei describes as using “a droplet discharging device” to discharge material “only onto the portions of the substrate where transparent electrodes or the like are to be formed” (EX1007, ¶¶15-16), is not this “conventional process.” *See* EX2001, ¶¶52-59 (explaining that a POSITA “would not understand this to be a conventional process for forming an OLED”). Rather, that approach represents the purportedly novel approach described by Hasei as an improvement over the “conventional method” of photolithography. Hasei, ¶3.

Indeed, while Hasei discloses an electro-optical device in Figure 3, that figure does not depict the type of structured electrode that Petitioner attributes to it. For example, Petitioner relies (*see, e.g.*, Pet. 14) on “negative electrode 50” depicted in Hasei Figure 3, which Hasei describes as a “metal electrode.” Hasei, ¶3. But in the variation depicted in Figure 3 and expressly relied upon by Petitioner, the negative electrode 50 appears continuous from left to right, rather than being deposited “in a structured fashion” (or only coated in partial regions dependent on the desired

³ Citations to Hasei (EX1006) refer to the translation provided by Petitioner (EX1007). Patent Owner does not concede that Petitioner’s translation is accurate.

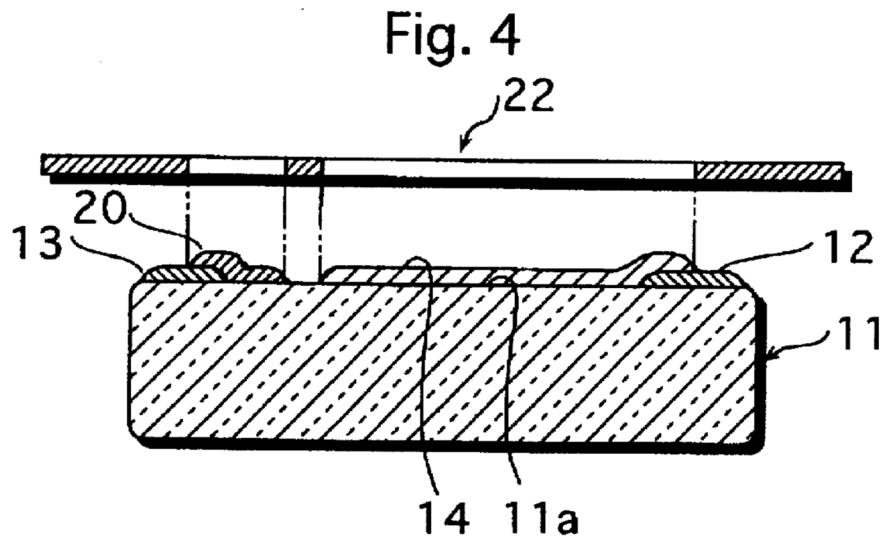
structure) as required by the claims. *See* EX2001, ¶54 (“[A] POSITA at the time of the invention of the ’492 Patent would understand that this unbroken negative electrode 50 has not been structured in an manner, whether through application in a ‘structured fashion’ or through planar application and subsequent structuring by, for example, etching or photolithography.”); *id.*, ¶¶74-75.



EX1007 (Hasei), Fig. 3.

C. Hanamura

Hanamura (EX1008) discloses a technique for forming a capacitor that differs significantly from the claimed invention of the ’492 Patent. For example, Hanamura’s technique begins not with the application of two electrically conductive layers into which a trench is formed, but rather with adjacent electrodes (i.e., adjacent electrodes 13 and 20 and adjacent electrodes 12 and 14) applied selectively to the substrate to leave a “predetermined spacing” between electrodes 20 and 14 as shown below:



EX1008 (Hanamura), Fig. 4; *see also id.* at 5:55-59 (“predetermined spacing”); EX2001, ¶60. The predetermined spacing—to the extent it may be viewed as a trench—is also not “in” both electrodes 13 and 20, but only between electrode 20 and a laterally placed electrode 14. *Id.*, ¶61.

D. Egitto

Egitto (EX1013) “relates to providing resistors for circuitized substrates,” and “to products including such resistors ... wherein the resistors are film resistors formed using trimming processes.” EX1013, ¶1. Egitto also discloses “representative patterns which may be etched within the resistor material.” *Id.*, ¶82.

VI. PETITIONER HAS NOT SHOWN A REASONABLE LIKELIHOOD OF SUCCESS ON ANY CLAIM CHALLENGED IN GROUND 1

Petitioner’s proposed combination of Ingle and Hasei would not render the claimed invention of the ’492 Patent obvious because it fails to disclose key

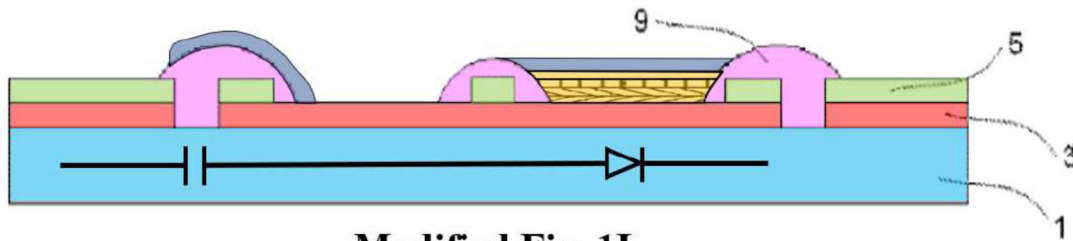
limitations of the challenged claims and would not have motivated a POSITA to combine the references in the specific manner contemplated in the Petition.

A. Neither Ingle nor Hasei Discloses Applying an “Electrically Conductive Electrode Layer” in a “Structured Fashion”

Ingle and Hasei fail to disclose “applying an electrically conductive electrode layer [e.g., the cathode for a capacitor or OLED] in a structured fashion,” which is required in some form by each independent claim and thus each challenged claim in Ground 1. *See* EX1001, 20:41-43 (claim 1), 21:28-31 (“an electrically conductive electrode layer, which is applied in a structured fashion”) (claim 10), 21:38-40 (“applying the electrode layer in a structured fashion”) (claim 10), 22:39-42 (“an electrically conductive electrode layer, which is applied in a structured fashion”) (claim 16). Neither Ingle nor Hasei (nor the combination thereof as proposed by Petitioner) disclose this limitation. *See* EX2001, ¶¶64-65.

As Petitioner concedes, for example, “Ingle *leaves open* how to finish forming a capacitor on its base structure, i.e., how to apply the cathode.” Pet. 24. And according to Petitioner, Ingle states that an OLED can be formed on the substrate “using a *conventional process*.” Pet. 18 (quoting Ingle, 21:34-36). But “[n]either Ingle nor Hasei describe the full scope of such a ‘conventional process’ to fabricate an OLED.” EX2001, ¶¶51, 66.

As such, the electrodes (shaded grey) depicted in various versions of Ingle Figure 1I “modified” by Petitioner have no basis in Ingle’s disclosures. They are pure conjecture and speculation. EX2001, ¶47.



Modified Fig. 1I

Pet. 27 (EX1005 (Ingle), Fig. 1I (annotated and modified by Petitioner); *see also* Pet. 20, 24, 37, 39, 45. The “conventional” method for producing OLED tiles in Ingle refers to “the conventionally used lithography methods, in which each coating step is applied individually and structured photolithographically.” Ingle, 16:19-21. According to the ’492 Patent, a conventional lithography process involves a “planar application of the corresponding layers and subsequent structuring of the layers,” and is “in contrast to” applying a layer “in a structured fashion.” EX1001, 1:66-2:7.⁴ Accordingly, a POSITA would not understand Ingle’s reference to a “conventional process” to include applying layers in a “structured fashion.” EX2001, ¶66.

⁴ Patent Owner takes no position on how modern photolithography methods are carried out.

The Petition attempts to sidestep this deficiency by frequently invoking Ingle's statement that "that its method 'is usually free of photolithographic steps' (Ingle, 18:7-10), and that 'each layer of the component can be applied individually and, if necessary, structured according to desire or purpose.' *Id.*, 7:20-24." Pet. 24. But, as discussed above on pages 9-10, those isolated disclosure taken out of context do not fairly reflect Ingle's teachings. *See, e.g., EWP Corp. v. Reliance Universal Inc.*, 755 F.2d 898, 907 (Fed. Cir. 1985) ("On the issue of obviousness, the combined teachings of the prior art as a whole must be considered."); EX2001, ¶¶68, 72.

To the contrary, Ingle contemplates structured application of only certain layers—specifically, the insulator and protective material layers (the latter of which relate solely to dependent claims). *See, e.g., EX1005 (Ingle)*, 16:12-16 (disclosing that the "method according to the invention" relates to "printing ***the insulator and the protective material*** compared to the methods normally used in the prior art, such as lithographic methods"); *see also id.* at 16:19-25 ("In contrast to the conventionally used lithography methods, in which each coating step is ... structured photolithographically, ... it is intended to apply only as much material of the ***insulator and the protective material***, both of which can generally be expensive materials, as is required for production of the electronic component."). And the quote on page 7 merely discloses that "each layer of the component can be applied individually and, if necessary, structured according to desire or purpose." Ingle,

7:20-27. It does not address whether the structuring occurs as part of the application or as part of subsequent, conventional techniques.

That Ingle does not contemplate structured application of all layers is reinforced by the immediately following disclosure that “the second electrically conductive layer” is applied “over the entire surface of the first electrically conductive layer in accordance with the invention.” *Id.* at 7:29-31; *see also id.* at 19:14-16 (“Processing begins with extensive coating of the substrate layer 1 with a first electrically conductive layer 3 (see Fig. 1B).”), 19:29-31 (“In the next step, the first electrically conductive layer 3 is coated extensively with a second electrically conductive layer 5 (see Fig. 1C).”).

Importantly, Ingle also explains—and Petitioner concedes—that, after the initial layer and dielectric have been applied, “[t]he electronic component, for example an OLED, can now be produced on the substrate layer prepared in this way using a **conventional process**.” EX1005 (Ingle), at 21:34-36; *see also* Pet. 11 (quoting same). The top electrode layer, a necessary part of the OLED (*see* EX2001, ¶67), would thus be produced “using a conventional process” according to Ingle. EX2001, ¶70 (“[A] POSITA would understand that the OLED would be formed using a conventional photolithographic method that does not involve application in a ‘structured fashion.’”).

Aware that its reliance on Ingle for this material limitation is infirm, Petitioner turns to Hasei for support. But Petitioner's reliance on Hasei to establish the obviousness of these claims limitations is likewise misplaced. The Petition suggests that Hasei discloses "the 'conventional process' for forming the OLED contemplated in Ingle." Pet. 12. To the extent that is true, then Hasei also does not disclose applying an electrically conductive electrode to a dielectric layer or above an optical functional layer (such as a light emitting layer in OLED) in a structured fashion because Hasei's "conventional" process based on lithography also deposits cathodes continuously rather in a structured fashion. *See, e.g.*, Hasei, Fig. 3 (negative electrode layer 50 is applied continuously from left to right, instead of only in discrete places as with layers 42 (positive electrode) and 46-48), ¶32; EX2001, ¶¶72, 74-75.

Moreover, although Hasei discloses using "a droplet discharging device" to discharge material "only onto the portions of the substrate where transparent electrodes or the like are to be formed" (EX1007, ¶¶15-16), this is not what Hasei calls the "conventional process." *See* EX2001, ¶57. Rather, that approach represents the purportedly novel approach described by Hasei as an improvement over the "conventional method" of photolithography. Hasei, ¶3. Moreover, Hasei does not apply this improved process to the electrode layer 50 in Figure 3 (the embodiment

relied upon in the Petition), which is the electrode above a dielectric layer and the optical functional layer that needs to be applied in a structured fashion.

As Dr. Pattison explains, a POSITA would not be motivated to apply the “droplet discharging” teachings of Hasei to the common electrode of an OLED component or a capacitor like the one Petitioner proposes adding to Ingle with any reasonable expectation of success. EX2001, ¶57. Although Hasei states that “negative electrode 50 may be formed by the droplet discharging method ... or may be formed by photolithography or etching” (Hasei, ¶3), the suggestion to use the “droplet discharging method” would not make sense to a POSITA in the context of negative electrode 50 in Hasei Figure 3, which, for example, “is a metal electrode” (Hasei, ¶3)—i.e., not transparent as discussed in Hasei paragraphs 15-16. *See* EX2001, ¶57. Furthermore, negative electrode 50 in Hasei Figure 3 is a common electrode that is not structured (EX2001, ¶¶53-54), whereas “positive electrode 42” is applied only on certain portions of the substrate 41 and “is capable of transmitting light.” Hasei, Fig. 3, ¶34. While a POSITA may have used Hasei’s “droplet discharging method” to form the positive electrode 42, a POSITA would ***not*** have been motivated to use that method to form the negative electrode 50 in Figure 3 that Samsung and Dr. Kattamis rely upon. EX2001, ¶57.

As Petitioner acknowledges, while “Hasei [allegedly] teaches structured application of layers,” Hasei also “notes that ‘the ***conventional method*** of providing

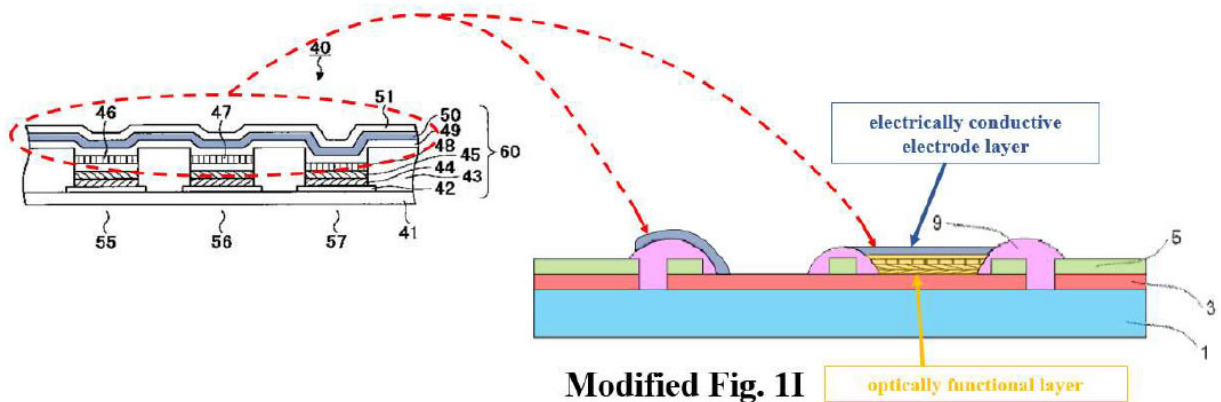
a conductive pattern requires a photomask to be used in the photolithography process.” Pet. 12 (quoting Hasei, ¶3). Yet despite this clear linkage in both Ingle and Hasei to contemporaneous photolithography-type methods as the “conventional” approach, the Petition relies on the unsupported conclusion that Hasei’s disclosure of applying structured layers represents the “conventional process” for forming the OLED contemplated in Ingle. *Id.* This conclusion simply cannot be squared with the express disclosures of Ingle and Hasei.

Moreover, Hasei contains no discussion of forming capacitors. EX2001, ¶¶59, 73. Indeed, Hasei does not include a single reference to capacitors of any type; and Petitioner provides no reason why a POSITA would have extended Hasei’s method for producing its OLED to a capacitor. *Id.*, ¶¶57 (explaining that “there is no need to have a transparent electrode for a capacitor; and indeed ITO is an unsuitable material for constructing a capacitor since it is not in the optical path of the optoelectronic device and therefore does not need to be transparent”), 73 (explaining that a POSITA would have understood Hasei’s method to relate to transparent electrodes, which would not be appropriate for forming a capacitor”).

In particular, Petitioner specifically relies upon Hasei Figure 3 and related disclosures related to forming an OLED component and the cathode for such an OLED component. *See, e.g.*, Pet. 35-36, 38-39. But Figure 3 does not depict the particular type of structured electrode that Petitioner attributes to it. For example,

Petitioner provides no competent evidence that Hasei Figure 3 (on which it relies) discloses a structured cathode layer as suggested in the Petition. *See* EX2001, ¶75 (explaining that a POSITA “would understand that this unbroken negative electrode has not been structured in any manner). To the contrary, as Dr. Pattison explains, Hasei describes and depicts in Figure 3 a “common electrode” that “must be continuous across the subpixels depicted in Figure 3” and “most likely multiple pixels.” *Id.*, ¶76; *see also id.*, ¶¶55-56 (referring to common electrodes disclosed in EX1010 and EX1014 and explaining why a different system “would greatly increase the complexity of the drive circuitry with no added benefits”).

Nor does Petitioner identify any example in Hasei that mirrors the modified Ingle Figure 1I reproduced throughout the Petition. As shown below in the grey-colored annotation in the upper-left figure, Hasei depicts negative electrode 50 as an unbroken layer that is coextensive with the surrounding layers and that spans multiple light-emitting devices, in contrast to the transparent electrode 42 and the light emitting layers 46-48 that are deposited in selected areas:



Pet. 39 (depicting Hasei, Fig. 3 (annotated by Petitioner, upper-left); Ingle, Fig. 1I (modified and annotated by Petitioner, lower-right)). Petitioner provides no explanation for why a POSITA would be motivated to deposit cathodes in discrete regions in a structured fashion by Hasei’s Figure 3. *See* EX2001, ¶¶74-75.

B. Neither Ingle nor Hasei Discloses Applying “an Electrically Conductive Electrode Layer ... Above the First Contact Region”

In addition to failing to disclose applying an electrically conductive electrode layer in a structured fashion, Ingle and Hasei fail to disclose applying such a layer (e.g., a cathode) “*above the first contact region*,” which is required by each independent claim and thus each challenged claim in Ground 1. *See* EX1001, 20:41-43 (claim 1), 21:28-31 (claim 10), 22:39-42 (claim 16); *see also* EX2001, ¶77.

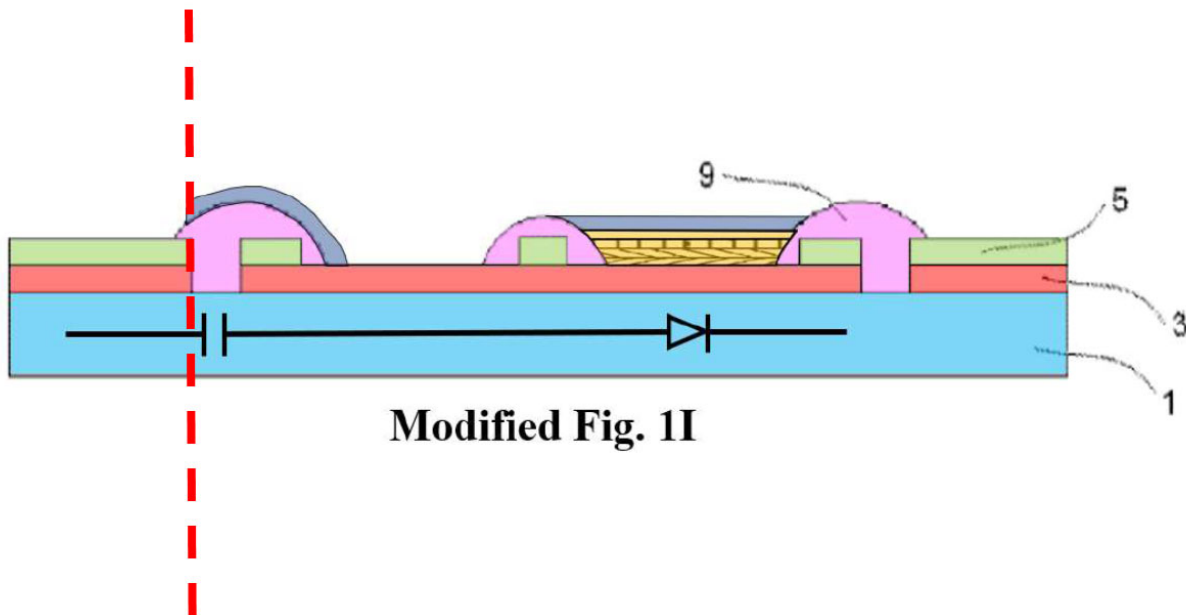
Each of Petitioner’s Grounds 1-3 relies on mapping the claim terms to a capacitor. *See, e.g.*, Pet. 27, 50. In the context of a capacitor, the layering of this electrode to the dielectric and above the first contact region, as well as to the second contact region, is material because that is what forms the capacitor, the structure that

Petitioner relies on for its unpatentability theory. EX2001, ¶¶42-45 (“Uneven distances across the dielectric material will induce regions of high electric field which will result in more rapid breakdown of the dielectric and failure and short-circuiting of the capacitor.”), 78 (explaining that this “layering” is critical to form the capacitor”). Both experts agree with the basic components required to form a capacitor. *See* EX2001, ¶43; EX1003, ¶¶76 (“A capacitor is a passive electronic element that is comprised of two conductors separated by an insulator or dielectric material.”), 77 (“The most basic semiconductor capacitor is formed by depositing an insulator or dielectric material onto a conductive surface and then forming another conductive surface above the deposited insulator or dielectric.”); EX1017 (Nilsson), at 221-22; EX1018 (Grebene), at 164-66.

While Petitioner contends that the combination of Ingle and Hasei teaches this limitation, it does so in reference to a modified version of Ingle Fig. 1I, which—despite Petitioner’s characterizations to the contrary—does not depict an “electrically conductive [electrode] layer (grey) ... applied to the dielectric (pink) above the first contact region.” Pet. 37 (“As shown in the figures below....”).

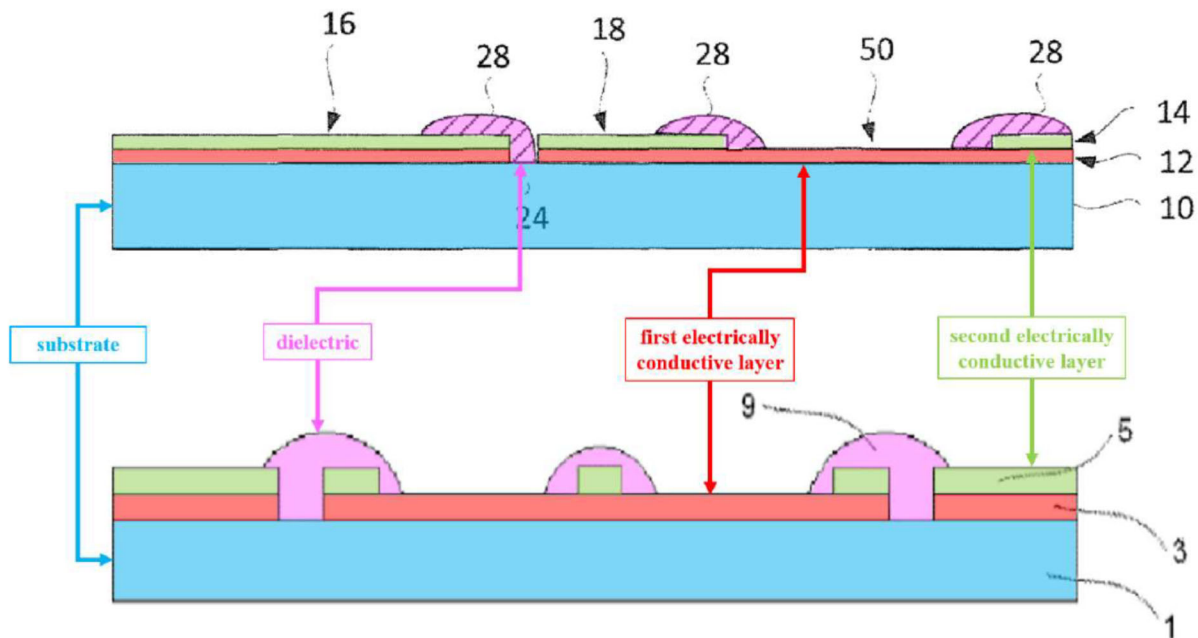


Id. (depicting Hasei, Fig. 3 (left, annotated by Petitioner), and Ingle, Fig. 1I (right, annotated and modified by Petitioner)); *see also* EX2001, ¶¶81-82. Thus, although Petitioner asserts that it would have been obvious for a POSITA to form the claimed electrode to the dielectric above the first contact region to form a capacitor (Pet. 36), Petitioner clearly envisions something different than the plain meaning of those terms. This is seen more clearly in the annotated version of Ingle Figure 1I on page 27 of the Petition, which—as highlighted by the further annotation of a broken red line below—demonstrates the lack of overlap:



Pet. 27 (further modified (with broken red line) version of Ingle, Fig. 1I (otherwise annotated and modified by Petitioner)). As the annotation makes clear, the electrode (gray) ends at the right edge of the first contact region and it is therefore not “above” the first contact region. EX2001, ¶83.

That said, Ingle Figure 1I itself belies the notion that a capacitor could be formed in the manner suggested in the Petition. As discussed above, while Ingle and the '492 Patent share a common inventor and certain similar disclosures, the structures and methods disclosed in Ingle differ in significant and material ways from those described and claimed in the '492 Patent. For example, the application of the dielectric results in significant overlap of the first contact region in the '492 Patent but not in Ingle. This is evident in Petitioner’s own annotated comparison of Figure 15 of the '492 Patent and Figure 1I of the Ingle reference:



Pet. 12 (comparing '492 Patent, Fig. 15 (annotated, top) with Ingle, Fig. 11 (annotated, bottom)). As these annotated figures demonstrate, the leftmost dielectric 28 applied in the '492 Patent significantly covers region 16, whereas in Ingle, the leftmost dielectric barely covers the corner of the equivalent portion of the second electrically conductive layer alleged to constitute the first contact region. EX2001, ¶84.

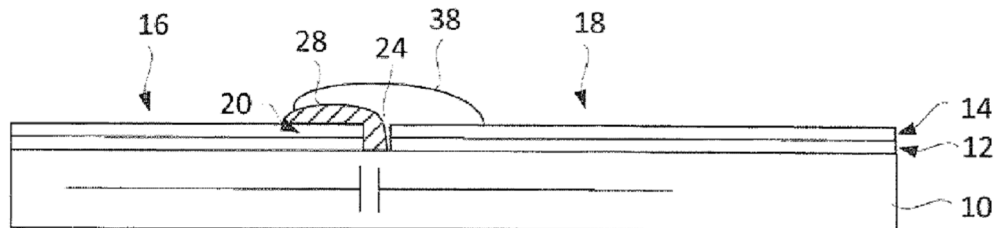
The Petition does not acknowledge this disconnect between the assertion that the imaginary electrically conductive electrode layer is applied to the dielectric above the first contact region and the illustration showing no overlap between that layer and the first contact region. Indeed, it is difficult to envision any such overlap, given the applied dielectric's minimal overlap of the first contact region. As Dr.

Pattison explains, extending the imaginary electrically conductive electrode layer further to the left (and thus “above” the first contact region) “would risk a short-circuit or capacitor breakdown due to irregular distance and area between the applied cathode and the first contact region, which would render the capacitor inoperable.” EX2001, ¶87. And without this overlap, applying a cathode as depicted and described by Petitioner “would not form a reliably working capacitor.” *Id.* And to the extent that Petitioner attempts to change its theory to contend that the capacitor is formed over the trench, “that would render the alleged electrically conductive electrode layer superfluous.” *Id.*, ¶88.

This deficiency in Ingle’s disclosure is particularly noteworthy because, according to Petitioner, applying this electrode layer to the dielectric above the first contact region is necessary to create a capacitor. *See* EX2001, ¶85; Pet. 36 (referencing completing a capacitor “on Ingle’s base structure by applying an electrode above the dielectric in the first contact region” as well as forming “an electrode above the left-side dielectric in Ingle’s base structure ... to form a capacitor connected to the OLED”). That is consistent with the ’492 Patent specification as it relates to the formation of a capacitor, which explains that “a first electrode of a capacitor is formed by the first contact region between the dielectric and the substrate and a second electrode of the capacitor is formed by the electrode layer on a side of

the dielectric facing away from the first contact region.” EX1001, 3:38-42.⁵ That claimed structure is shown in Figure 7:

Fig. 7



Id. at Fig. 7. The '492 Patent describes this passive electronic component:

FIG. 7 shows the substrate 10 and the first and second electrically conductive layers 12, 14 with the dielectric 28, wherein an electrode layer 38 is applied in a structured fashion on the dielectric 28 and a part of the second contact region 18. The first contact region 16 between the substrate 10 and the electrode layer 38 serves as a first electrode, for example as an anode, of the passive electronic component. The electrode layer 38 on a side of the dielectric 28 facing away from the substrate 10 serves as a second electrode, for example as a cathode, of the passive electronic component.

Id. at 12:27-36.

⁵ The claims are not limited to capacitors, but Petitioner relies specifically on Ingle's disclosure with respect to capacitors. As such, the '492 Patent's disclosures with respect to capacitors (as opposed to more generally to other types of electronic components) are more relevant.

The Petition attempts to address this problem by citing its expert's declaration to support the proposition that "[a] POSITA would readily understand that Ingle's capacitor *could be* completed on Ingle's base structure by applying an electrode above the dielectric in the first contact region." Pet. 36. Obviousness, however, concerns not only what "could be" done, but also what would have been done. *Belden Inc. v. Berk-Tek LLC*, 805 F.3d 1064, 1073 (Fed. Cir. 2015).

The Federal Circuit's opinion in *Virtek Vision Int'l ULC v. Assembly Guidance Sys.*, 97 F.4th 882 (Fed. Cir. 2024), is instructive. There, the prior art recognized "that two alternative arrangements such as an angular direction system using a single camera and a 3D coordinate system using two cameras were both known in the art." *Id.* at 886. Prior art also discloses that either measure "may be applied to any computer controlled aiming system." *Id.* The Federal Circuit remarked that "[t]he mere fact that these possible arrangements existed in the prior art does not provide a reason that a skilled artisan would have substituted the one-camera angular direction system in Keitler and Bridges with the two-camera 3D coordinate system disclosed in Briggs." *Id.* at 887. It is not sufficient to say that the alternatives "were 'known to be used'"; rather, a reason to modify must be articulated. *Id.*

No such reasons are given. For example, Dr. Kattamis provides no explanation for the overlap issues described above in the cited portion of his

declaration. *See* EX1003, ¶162; EX2001, ¶86. And while the Petition also asserts that “[a] POSITA would understand that the degree to which both the dielectric (pink) and the electrically conductive [electrode] layer (grey) extend over the first contact region *may be* adjusted to fine-tune the capacitance of the capacitor,” the cited declaration testimony merely parrots this statement without any meaningful support or explanation. *See* Pet. 38; EX1003, ¶167. That conclusory testimony does not suffice to carry Petitioner’s burden. *See, e.g., Nintendo Co. v. Genuine Enabling Tech LLC*, IPR2018-00543, Paper 7 at 24 (PTAB Aug. 6, 2018) (denying institution because petitioners’ “only support [was] a conclusory statement [from their expert] without any evidentiary support, which has no weight”); 37 C.F.R. §42.65(a) (“Expert testimony that does not disclose the underlying facts or data on which the opinion is based is entitled to little or no weight.”). Nor does it provide any reason for why Ingle needed such fine-tuning or even why any additional overlap would result from such fine-tuning. Moreover, this conclusory statement “assumes some degree of overlap between the electrically conductive electrode layer and the first contact region, which a POSITA would not understand to exist as explained above.” EX2001, ¶86. This is not about weight of evidence, but complete absence of reasoning and analysis to make a *prima facie* case of obviousness.

C. The Examiner Considered Ingle, and Section 325(d) Applies

Petitioner concedes that two “relatives” of Ingle were submitted to the Office during prosecution. Pet. 5 n.2 (conceding that “a German relative, DE 102009060066, and a U.S. relative, U.S. Patent Publication No. 2012/0267147, were provided during prosecution”). Ingle is a PCT Application (No. PCT/EP2010/063623) published as WO 2011/036089. EX1005 (Ingle), cover, fields (10), (21). Ingle claims priority to the same German patent application identified by Petitioner as having been disclosed to the Office—10 2009 060 066.3 (“the ’066 Application”). EX1005 (Ingle), cover, field (30), 1:11-14. The ’066 Application was disclosed to the Office in an IDS received on April 13, 2015, and a copy is included in the file history. EX1002 (File History for ’492 Patent), at 293-309, 332-33. The IDS also discloses U.S. Patent Publication No. 2012/0267147 (EX2002, “the ’147 Publication”), which “[c]orresponds to DE 102009060066 A1.” EX1002, at 332. Unsurprisingly, Ingle and the ’147 Publication are substantively the same. *Compare* EX1005 (Ingle), *with* EX2002 (’147 Publication).

The examiner, Ms. Theresa Doan, considered these references, as evidenced by her signature on the IDS form and the note “ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /TD/.” EX1002, at 332-33. The examiner considered the references by August 10, 2015. *Id.* (“Date Considered”). That was before the notice of allowance issued on September 30, 2015. *Id.* at 466. Thus, when

the examiner noted that the “prior art of record neither anticipates nor renders obvious all the limitations in the base claims 1, 10, and 16,” that included the ’066 Application and the ’147 Publication which were part of the record she considered. *See id.* at 471. Moreover, the ’066 Application and the ’147 Publication were not two of a large number of references disclosed. In fact, they were two of only three references submitted on November 30, 2010. *See id.* at 289-91.

Accordingly, “substantially the same art previously was presented to the Office,” and step 1 of *Advanced Bionics* is satisfied. *Advanced Bionics, LLC v. MED-EL Elektromedizinische Geräte GmbH*, IPR2019-01469, Paper 6, at 8 (PTAB Feb. 13, 2020) (precedential). The inclusion of Hasei in Ground 1 does not change this because, according to Petitioner, Ingle already discloses “using a conventional process” to create an OLED, and Hasei is merely providing one of the ways. Pet. 18-19. As such, when the examiner considered Ingle for obviousness, he would have considered the state of the art.

As to step 2, Petitioner has not shown any material error made by the examiner. Even though Petitioner may disagree with the examiner’s conclusion, Ingle does not disclose at least (1) applying an electrically conductive electrode layer in a structured fashion, (2) applying such a layer (e.g., a cathode) above the first contact region, or (3) “forming a passive electronic component” and “forming an optoelectronic component” as part of the same “optoelectronic assembly.” *See*

Sections VI.A–C, *supra*. Hence, Step 2 of *Advanced Bionics* is satisfied as well, providing an additional reason to deny the Petition.

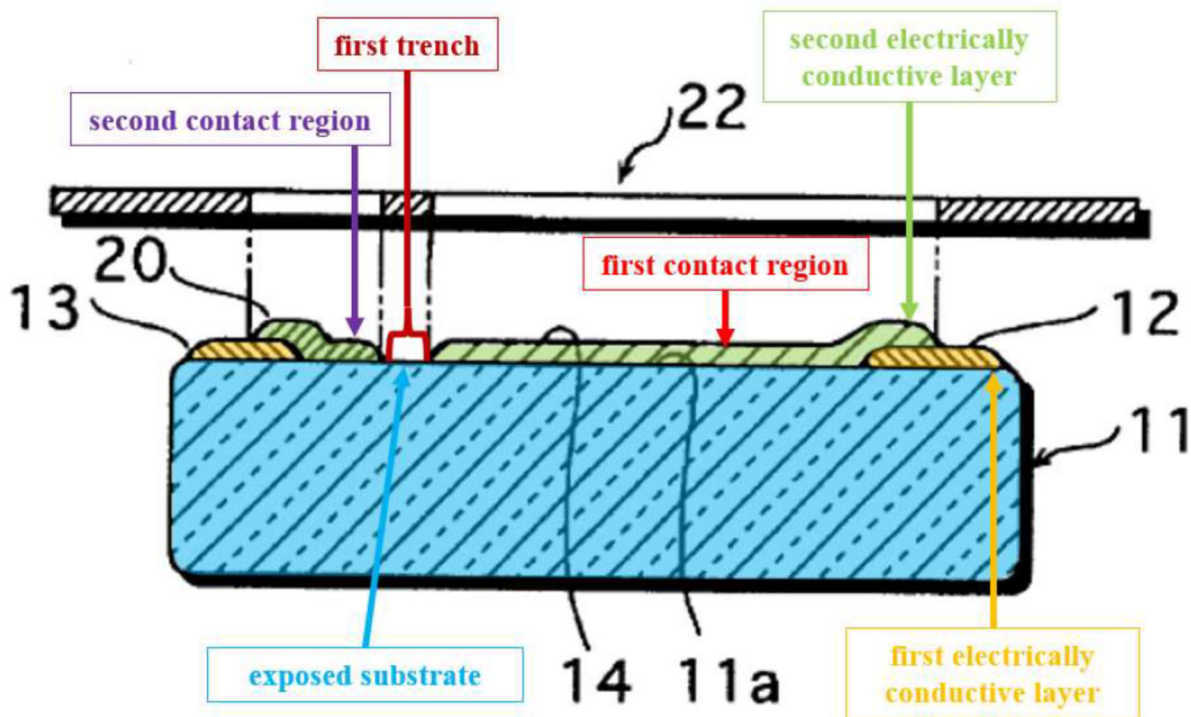
VII. PETITIONER HAS NOT SHOWN A REASONABLE LIKELIHOOD OF SUCCESS ON ANY CLAIM CHALLENGED IN GROUNDS 2-3

Neither Hanamura nor Egitto disclose key limitations of the '492 Patent, including the first two recited electrically conductive “layers” and the “trench” in those two layers, much less “forming” such a trench. Hanamura contains no disclosure of these features found in independent claims 1 and 16, and Petitioner does not rely on Egitto or any other reference to teach these claim limitations. *See* EX2001, ¶¶90-91.

A. Hanamura Fails to Disclose the Claimed First and Second Electrically Conductive “Layers”

Petitioner fundamentally mischaracterizes the teachings of Hanamura by contending that it discloses *both* “a first electrically conductive layer on a substrate” *and* “a second electrically conductive layer on the first electrically conductive layer,” as required by independent claims 1 and 16, and thus required by each claim challenged in Grounds 2 and 3. *See* EX1001 ('492 Patent), 20:29-31 (claim 1), 22:28-30 (claim 16). As shown in Petitioner’s own annotated versions of Hanamura’s figures, the alleged “first electrically conductive layer” (electrodes 12 and 13, colored yellow below) and the alleged “second electrically conductive layer” (electrodes 14 and 20, colored green below) are in fact four adjacent and *slightly*

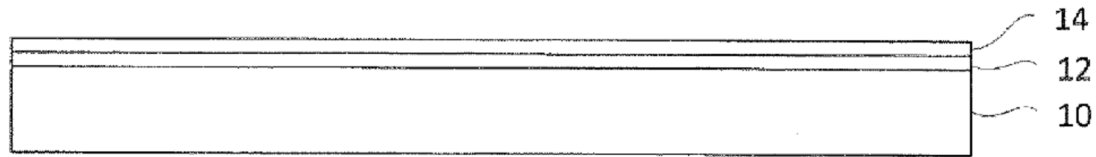
overlapping electrodes applied selectively within a single horizontal plane (or layer).
See EX2001, ¶92 (noting that “[a]ll four electrodes collectively occupy a single horizontal plane, and a POSITA would not have viewed electrode 20 as ‘on’ the electrode 13 or electrode 14 as ‘on’ the electrode 12”).



Pet. 54 (EX1008 (Hanamura), Fig. 4 (annotated by Petitioner)).

That is not consistent with the '492 Patent's description of the claimed first and second electrically conductive layers, which are depicted as distinct planar layers in Figure 3. *See* EX2001, ¶93.

Fig. 3



EX1001 ('492 Patent), Fig. 3. Consistent with those depictions, the specification explains that “[t]he first electrically conductive layer 12 can be applied to the substrate 10 for example in a planar fashion, that is to say without structure.” *Id.* at 11:2-4 (referring to Fig. 2). Likewise, the specification explains that “[t]he second electrically conductive layer 14 can be applied to the first electrically conductive layer 12 for example in a planar fashion, that is to say without structure.” *Id.* at 11:24-26 (referring to Fig. 3). The '492 Patent further contrasts layers “applied in a structured fashion” (in which “the desired structure is already formed during the application of the corresponding layer,” and the “area to be coated is thus coated only in partial regions dependent on the desired structure”) to “planar application of the corresponding layers and subsequent structuring of the layers.” *Id.* at 1:66-2:7. As a result of the deposition process—whether structured, semi-structured, or planar, as described in the '492 Patent, the resulting second electrically conductive layer is “on” the first electrically conductive layer (*e.g.*, EX1001, 29:30-31, 21:17-18, 22:29-30), instead of being mostly in the same plane with slight edge overlap between the two materials.

Furthermore, the specification describes the claimed “trench formed in the first and second electrically conductive layers” (*e.g.*, *id.* at 21:19-20), which, as discussed below, cannot be reconciled either with alleged “layers” that already include spacing between themselves, or with a spacing between two electrodes in a single horizontal plane. Indeed, Hanamura does not describe these electrodes as “layers.” Instead, Hanamura describes them as “a first lead electrode 12 and a second lead electrode 13,” and “a first capacitor electrode 14 and an auxiliary electrode 20.” EX1008, 5:25-32. By contrast, in the very next paragraph, Hanamura describes “a dielectric layer 15 [that] is formed on the first capacitor electrode 14.” *Id.* at 5:33-36; *see also id.* at 5:45-47 (describing “a protective overcoat layer 19”). In contrast, Hanamura does not describe electrode 14 as “formed on” electrode 12 or electrode 20 as “formed on” electrode 13, as Petitioner contends.

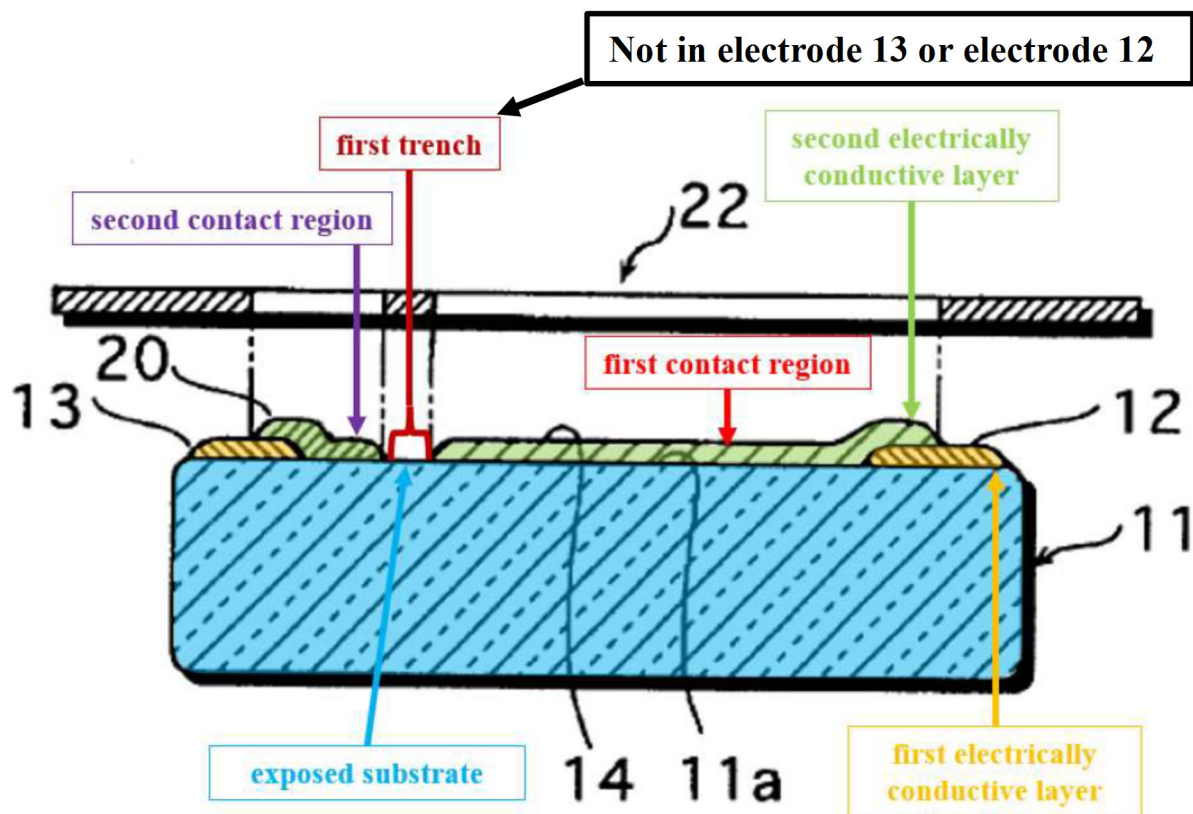
Petitioner’s expert does not grapple with these distinctions between the ’492 Patent’s first and second electrically conductive layers and the four electrodes described in Hanamura. *See* EX2001, ¶94 (“Dr. Kattamis does not explain why a POSITA would view these disclosures differently.”). Instead, Dr. Kattamis merely quotes a portion of Hanamura describing the electrodes and then concludes without explanation that “a POSITA would recognized Hanamura’s electrodes 12 and 13, which are stated to be deposited simultaneously, as the ’492 patent’s claimed “first electrically conductive layer.” EX1003, ¶225. Similarly, Dr. Kattamis states in

conclusory fashion that “Hanamura’s Fig. 4 ... also depicts a second electrically conductive layer.” *Id.*, ¶230. These unsupported assertions merit no weight. *See, e.g., In re Magnum Oil Tools Int’l, Ltd.*, 829 F.3d 1364, 1380 (Fed. Cir. 2016) (holding that a petitioner cannot satisfy its burden with “mere conclusory statements,” but “must instead articulate specific reasoning, based on evidence of record, to support the legal conclusion of obviousness”); *Nintendo*, IPR2018-00543, Paper 7 at 24; 37 C.F.R. §42.65(a). Accordingly, Petitioner fails to establish these claim limitations.

B. Hanamura Fails to Disclose the Claimed “Trench” in the First and Second Electrically Conductive Layers

Because Hanamura fails to disclose the two claimed electrically conductive layers applied on top of the substrate, it necessarily follows that Hanamura likewise fails to disclose “a first trench *in* the first and second electrically conductive layers” as required by independent claims 1 and 16, and thus required by each claim challenged in Grounds 2 and 3. *See* EX1001, 20:32-35 (claim 1), 22:31-33 (claim 16). At most, Hanamura discloses that a “predetermined spacing” is “reliably provided between” electrodes 14 and 20 (EX1008 (Hanamura), at 5:55-59), which Petitioner characterizes as collectively forming the second electrically conductive layer. *See* Pet. 52-53; *see also* EX2001, ¶95 (“A POSITA would not, however, view the predetermined spacing as being in electrodes 13 and 12 (the purported first electrically conductive layer), for example.”). Put another way, even if electrodes 13

and 20 could constitute a first electrically conductive layer and electrodes 14 and 20 could constitute a second electrically conductive layer, Petitioner's analysis at most indicates that a "trench" is in the second electrically conductive layer (mapped to electrodes 20 and 14). There is no explanation why the trench is also *in* the first electrically conductive layer (mapped to electrodes 12 and 13).



Pet. 54 (Hanamura, Fig. 4 (annotated by Petitioner and further annotated with text in black box by Patent Owner)).

Furthermore, because Hanamura does not disclose two distinct electrically conductive layers, it is logically impossible for a trench to exist in both of them as

required by the challenged claims. Aside from asserting that this “predetermined spacing” constitutes a trench “formed in the first and second electrically conductive layers,” Petitioner makes no effort to explain how the alleged “trench” exists “in” both layers. *See* Pet. 53; EX2001, ¶¶96. Likewise, Petitioner’s expert does not even address the claimed requirement that the trench be “in” both first and second electrically conductive layers. *See* EX1003, ¶¶232-35; EX2001, ¶¶96. As such, the Petition also fails to establish the obviousness of this claim limitation.

C. Hanamura Fails to Disclose “Forming” the Claimed Trench as Required by Independent Claim 1

Because Hanamura fails to disclose the claimed “trench” in the first and second electrically conductive layers, which Hanamura likewise fails to disclose, it necessarily follows that Hanamura further fails to disclose “forming a first trench” in those layers “such that the substrate is exposed” and “wherein the first trench separates a first contact region from a second contact region,” as required by independent claim 1 (and thus challenged dependent claims 2, 3, 5, 6, and 8). *See* EX1001 (’492 Patent), 20:33-35; EX2001, ¶¶97-98.

Furthermore, merely leaving a gap or “predetermined spacing” between selectively applied electrodes (EX1008 (Hanamura), 5:55-59) is not consistent with the invention described and claimed in the ’492 Patent. Because the space between electrodes 14 and 20 characterized as a “trench” by Petitioner already exists (*see*

EX1008, Fig. 5), there is no need—and indeed no possibility—to “form” the alleged trench. EX2001, ¶97. This deficiency flows directly from Hanamura’s failure to disclose an application of the first two electrically conductive layers that would require subsequent structuring as discussed above. Absent those steps, the ’492 Patent’s claimed approach of “forming” the trench in those layers makes no sense. In particular, a skilled artisan would not be motivated to use methods such as “etching” or “laser ablation” to “form” a trench, thereby exposing the substrate and separating first and second contact regions from each other when a spacing exists that already leaves the substrate exposed and already separates the alleged contact regions. *See* EX1001 (’492 Patent), 1:55-58, 4:5-9; EX2001, ¶98. Accordingly, Petitioner additionally fails to establish this limitation.

D. The Ground 3 Combination of Hanamura and Egitto Cannot and Does Not Remedy the Deficiencies of Ground 2

Egitto cannot cure the deficiencies already identified with respect to Grounds 2 and 3 because Petitioner relies solely on Hanamura for the limitations recited in independent claims 1 and 16 and addressed above. *See* Pet. 4. Because of the deficiencies in Hanamura related to independent claim 1 described above, Petitioner cannot establish a likelihood of success on Ground 3, which challenges dependent claims 3, 5, and 6, for the same reasons described in Section VII, *supra*.

E. A POSITA Would Not Have Been Motivated to Combine Hanamura and Egitto to Achieve the Resistor Design of Claim 3

Additionally, Petitioner's reliance on the combination of Hanamura and Egitto to teach the limitations of dependent claims 3 and 5 is misplaced. As Petitioner admits, claim 3 (and thus dependent claim 5) "requires that the resistance region have a *particular design*, i.e., that a second trench and at least one third trench are formed, which delimit the resistance region, and which cause the resistance region to have taper in a direction parallel to the electrically conductive layers." Pet. 64; *see also* EX1003, ¶276 ("Claim 3 of the '492 patent requires that the resistance region have a particular geometric design."); EX2001, ¶99. Petitioner then dismisses this recited particular design as a mere "design choice." Pet. 64. But simply characterizing the specifically claimed design as a "choice" does not render it obvious or provide a motivation for a POSITA to combine Hanamura with the specific designs disclosed in Egitto. EX2001, ¶100, 102 ("[A] POSITA would not have been motivated to combine the teachings of Hanamura and Egitto in the manner suggested in the Petition.").

As explained by Dr. Pattison, neither the Petition nor Dr. Kattamis's declaration provides any specific motivation to combine the teachings of Hanamura—including its disclosure of "a resistor having a reliably adjusted resistance" (Pet. 60 (quoting EX1003 (Hanamura), 2:39-40) or its disclosure that a

“resistor can ‘control the rate of electric charging and discharging of the capacitor” (*id.* at 61 (quoting Hanamura, 6:55-58))—with the “representative pattern[]” described in Egitto paragraph 82 and Figure 8. *See* EX2001, ¶101.

Petitioner asserts that “[u]sing the design from Egitto in the electrically conductive layers of Hanamura would involve nothing more than applying a known technique to a known device ready for improvement to yield predictable results.” Pet. 65 (citing EX1003, ¶285 (same)). That conclusory statement by Petitioner and its expert regarding the alleged feasibility of the proposed combination cannot satisfy the burden to demonstrate obviousness or a motivation to combine the references. “The obviousness inquiry does not merely ask whether a skilled artisan *could* combine the references, but instead asks whether they *would* have been motivated to do so.” *Adidas AG v. Nike, Inc.*, 963 F.3d 1355, 1359 (Fed. Cir. 2020); *accord Belden*, 805 F.3d at 1073 (“[O]bviousness concerns whether a skilled artisan not only *could have made* but *would have been motivated to make* the combinations or modifications of prior art to arrive at the claimed invention.” (emphases in original)); *Personal Web Techs., LLC v. Apple, Inc.*, 848 F.3d 987, 991-92 (Fed. Cir. 2017). As the Supreme Court has cautioned, because “inventions in most, if not all, instances rely upon building blocks long since uncovered,” “it can be important to identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the elements in the way the claimed new invention does.” *KSR Int’l*

Co. v. Teleflex Inc., 550 U.S. 398, 418-19 (2007); *see also Virtek*, 97 F.4th at 887-88 (“The fact that the claim elements are known in the prior art ... alone does not show a motivation to combine.”)

Moreover, Petitioner does not satisfy its burden with such “mere conclusory statements,” but “must instead articulate specific reasoning, based on evidence of record, to support the legal conclusion of obviousness.” *Magnum Oil*, 829 F.3d at 1380; *Samsung Elecs. Co. v. LED Wafer Sols., LLC*, IPR2021-01491, Paper 11 at 15 (PTAB Oct. 26, 2022) (denying institution on rehearing because “Petitioner’s showing as to motivation to combine is conclusory”).

VIII. THE BOARD SHOULD EXERCISE ITS DISCRETION TO DENY THE PETITION UNDER SECTION 314(a)

Finally, the Board should exercise its discretion to deny the Petition under 35 U.S.C. § 314(a) and *Apple Inc. v. Fintiv, Inc.*, IPR2020-00019, Paper 11 (PTAB Mar. 20, 2020) (precedential), in view of the co-pending litigation, *Pictiva Displays Int’l Ltd. v. Samsung Elecs. Co.*, No. 2:23-cv-0495 (E.D. Tex.) (Gilstrap, J.).

First, Petitioner has not requested a stay in the co-pending litigation, nor is there evidence that Judge Gilstrap would grant a stay if a trial is instituted. In fact, Judge Gilstrap frequently denies stays in such cases. *E.g., Netlist, Inc. v. Micron Tech., Inc.*, Civ. No. 2:22-cv-00294, Dkt. 72 (E.D. Tex. Mar. 12, 2024) (denying motion to stay pending instituted IPRs); *Netlist, Inc. v. Samsung Elec. Co.*, Civ. No.

2:22-cv-00293, Dkt. 180 (E.D. Tex. Oct. 17, 2023) (denying motion to stay pending instituted IPRs); *id.*, Dkt. 689 (Mar. 11, 2024) (same).

Second, as Petitioner acknowledges, trial is scheduled for August 4, 2025, (Pet. 71; EX1025, at 1), more than six months before the projected statutory deadline of late February 2026 for a final written decision here. And August 4, 2025, is about 21.6 months from October 19, 2023, the date when Pictiva filed its complaint against Samsung, which is also the median time-to-trial in the Eastern District of Texas. *See* EX2003, at 35. Notably, the Board recently declined to institute another IPR involving a petition filed by Petitioner (with the same real-parties-in-interest and with the POPR due nearly 3 months prior to this POPR), challenging a different Pictiva patent involved in the same district court litigation, finding that this factor “favors denial based on the trial date set for the District Court action, as well as the District Court’s median time-to-trial data.” *Samsung Display Co. v. Pictiva Displays Int’l Ltd.*, IPR2024-00855, Paper 12, at 8-9 (PTAB Nov. 19, 2024).

Third, on the current schedule, by the projected institution date, the parties would have substantially completed fact discovery, claim construction briefing would be complete, the court would have already held a *Markman* hearing, and opening expert reports would be due in less than a month. *See* EX1025, at 4. In the IPR2024-00855 decision, the Board found that this factor favored Samsung, but in that case, the Board noted that it was “directed to no substantive orders issued by the

District Court” or evidence of “concrete discovery activity,” and thus concluded that there had not been “a substantial investment by the parties and the District Court in the parallel litigation.” IPR2024-00855, Paper 12, at 10. Now, however, the parties and the court have invested heavily in the parallel litigation, as evidenced by a recent Order addressing motions to compel, *Pictiva Displays Int’l Ltd. v. Samsung Elecs. Co.*, No. 2:23-cv-00495, Dkt. 104 (Order) (E.D. Tex. Oct. 23, 2024), and the parties’ recent filing of the joint claim construction and prehearing statement pursuant to Local Patent Rule 4-3. *See id.*, Dkt. 108 (Joint 4-3 Statement) (Nov. 13, 2024). In addition, the parties have agreed to three depositions in early December and are negotiating dates for two additional depositions. Pictiva has also already served its Rule 30(b)(6) deposition notices with Samsung agreeing to produce a witness for most topics. The deadline for substantial completion of document production is in December. EX1025, at 4. It suffices to say that the parties will have invested significant resources in the district court litigation by the deadline for institution.

Fourth, there is significant overlap between this proceeding and the parallel district court action given that Samsung has also asserted the same primary references in the district court (*see* EX2004, at 37-38) and has not filed any stipulation regarding the use of the references in district court that it has raised or could have reasonably raised in the Petition. Like the petition in IPR2024-00855, Samsung asserts the same prior art references in the district court action and has not

filed any stipulation regarding their use. Thus, as in that case, “[e]ven if the trial in the District Court action ultimately resolves fewer than all of the claims challenged in the Petition ... significant concerns about duplicative efforts persist because the same substantive issues related to the same prior art references are in contention in both forums.” IPR2024-00855, Paper 12, at 11.

Fifth, Petitioner admits that the named defendants in the parallel district court case—its parent company, Samsung Electronics Co., Ltd., and its sibling company, Samsung Electronics America, Inc.—are real parties-in-interest. Pet. 2. Thus, as in IPR2024-00855, “[t]his factor favors denial.” IPR2024-00855, Paper 12, at 11.

Thus, each of the first five *Fintiv* factors favors denial. In the recent case involving the similar but earlier-filed petition involving the same parallel litigation, the Board determined that “[u]nder a holistic view of the first five *Fintiv* factors, we find that these factors, taken together, weigh in favor of denial.” *Id.* The balance tips even greater in Patent Owner’s favor here because all five factors favor denial, unlike that case, in which the Board only found that the “second, fourth, and fifth *Fintiv* factors favor denial.” *Id.*

Additionally, as demonstrated above, the Petition lacks compelling merits. For these reasons, the Board should exercise its discretion to deny institution.

IX. CONCLUSION

For the foregoing reasons, the Board should deny the Petition.

Dated: November 20, 2024

Respectfully submitted,

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CERTIFICATE OF WORD COUNT

I hereby certify, pursuant to 37 C.F.R. section 42.24, that the foregoing Patent Owner Preliminary Response contains 9,434 words, excluding the words in the table of contents, table of authorities, mandatory notices under section 42.8, this certificate of word count, certificate of service or exhibit list. The word count is based on the word count of the Microsoft Word program used to prepare the Patent Owner Preliminary Response.

/H. Annita Zhong/
H. Annita Zhong (66,530)

CERTIFICATE OF SERVICE

I hereby certify, pursuant to 37 C.F.R. section 42.6, that on November 20, 2024, a complete copy of the **PATENT OWNER PRELIMINARY RESPONSE** and **EXHIBITS 2001-2004** were served upon the following, by ELECTRONIC MAIL:

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